

RAW SEQUENCE LISTING

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) no errors detected.

Application Serial Number: 10/552,156
Source: PCT
Date Processed by STIC: 10/24/2005

ENTERED



PCT

RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/552,156

DATE: 10/24/2005

TIME: 10:46:43

Input Set : A:\Sequence Listing for WO.2004.092209.TXT
Output Set: N:\CRF4\10242005\J552156.raw

3 <110> APPLICANT: Intercell AG
 5 <120> TITLE OF INVENTION: S. pneumoniae antigens
 7 <130> FILE REFERENCE: R42992
 C--> 9 <140> CURRENT APPLICATION NUMBER: US/10/552,156
 C--> 10 <141> CURRENT FILING DATE: 2005-10-11
 12 <150> PRIOR APPLICATION NUMBER: EP03450087.6
 13 <151> PRIOR FILING DATE: 2003-04-15
 15 <160> NUMBER OF SEQ ID NOS: 318
 17 <170> SOFTWARE: PatentIn version 3.1
 19 <210> SEQ ID NO: 1
 20 <211> LENGTH: 366
 21 <212> TYPE: DNA
 22 <213> ORGANISM: Streptococcus pneumoniae
 24 <400> SEQUENCE: 1
 25 atgtctaaaa atattgtaca attgaataat tcttttattc aaaatgaata ccaacgtcgt 60
 27 cgctaccta tgaaaagaacg acaaaaaacgg aatcgaaaa ttggaggggt attgattttg 120
 29 attatgctat tatttatctt gccaactttt aatttagcgc agagttatca gcaattactc 180
 31 caaagacgtc agcaattagc agacttgaa actcagtatc aaacttttag tgatgaaaag 240
 33 gataaggaga cagcatttc taccaagttt aaagatgaag attatgctgc taaatataca 300
 35 cgagcgaagt actattattt taagtcgagg gaaaaagttt atacgattcc tgacttgctt 360
 37 caaagg 366
 40 <210> SEQ ID NO: 2
 41 <211> LENGTH: 2631
 42 <212> TYPE: DNA
 43 <213> ORGANISM: Streptococcus pneumoniae
 45 <400> SEQUENCE: 2
 46 atggataaga aaaaattattt attgattgtat gggtcttctg tagcttttcg ggcgttttt 60
 48 gcgctgtatc agcagtttggc ccgttttaag aatgtggctg gtttgcatac caatgcgatt 120
 50 tatggttttc agttgtatgtt gagtcattta ttggagcggg ttgagccgag tcataattttg 180
 52 gtggcttttgc atgcgggaaa gacgacccgc cggacagaga tttatgcggg ctataagggt 240
 54 ggtcggggcca agactccttgc tgagtttcgt gagcaatttc ctttcatttcg tgagttgtctg 300
 56 gatcatatgg ggattcgtca ctatgtatctg gctcagtatg aggccggatga catcattttgg 360
 58 acgctggata agcttagcaga gcaggatggt tttatgtatata ctattgtatc tggggacaag 420
 60 gatttggattc agctgacggg tgagcatacg gtgggttggaaa ttccaaagaa aggtgtggct 480
 62 gagtttgagg cctttacgcc agattacctc atggaaagaaa tgggcctcac accagctcag 540
 64 tttatcgatc tcaaggcgcgt catgggtat aagtccggata atatccctgg ggtgaccaaa 600
 66 gtcgggtaaa agacgggtat taagcttttgc ctggagcatg gttcgcttgc ggggattttat 660
 68 gaaaatatttgc atggaaatggaa gacttctaaatgatggaaa atctcatcaa tgacaaggaa 720
 70 caggcccttttgtctaaac actagcgacc attgataccca aggcaccgat tgcgattttgt 780
 72 ttagaggact tggctctatag tggccatgttggaaaatc ttggggaaatttctacgatgag 840
 74 atgggcctca aacagctaaa gcaggcttta aatgtgtcgt cagctgtatgt gtctgagatgt 900
 76 ttggattttca tattttgttgc ccaaattcgttcaagatatgc tgagtgttgc gttctatcttc 960
 78 cactttggc ttggatgttgc gaatttccat acggataatt tggttggatt tgctctggctt 1020

RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/552,156

DATE: 10/24/2005

TIME: 10:46:43

Input Set : A:\Sequence Listing for WO.2004.092209.TXT
Output Set: N:\CRF4\10242005\J552156.raw

80	tgtggggata	agctctatgc	cacagacaag	cttgagactgt	tgcaagagccc	gattttcaag	1080
82	gatttcttag	aaaaaacatc	tctgagagtt	tatgacttta	agaaggtaa	agttcttttgc	1140
84	caacgttttgc	gtgtggattt	gcaggcgcc	gctttgaca	tccggttgc	taaatacctc	1200
86	cttcgactg	tggaggacaa	tgaattgcg	accatcgcta	gtctttatgg	tcagacttac	1260
88	ttgggttgc	atgaaaacttt	ctacggtaag	ggtgtaaaa	aggccattcc	tgaacgtgag	1320
90	aaattcttgc	aacacttagc	ttgtaaaactt	gctgtttgg	tagaaacaga	gcctatttttgc	1380
92	cttgaaaaac	tcagcgaaaa	tggcaatta	gagcttctt	atgatatgga	gcaacctctg	1440
94	gctttgtcc	ttgccaagat	gaaaattgct	gggattatgg	tcaagaaaga	gaccttgctt	1500
96	gagatgcagg	ctgaaaatga	gcttgcatt	aaaaaactga	ctcaagagat	ttacagagctg	1560
98	gctgggtgagg	agtttaatgt	caactcgcc	aagcagttgg	gcgtgcttct	ctttgagaaaa	1620
100	ttgggacttc	ctctagaata	cactaagaaa	accaagacag	gttattcgac	agcagtggat	1680
102	gttttagagc	gtctcgctcc	tattgctccg	attgttaaga	aaatccttgc	ttaccgtcaa	1740
104	attgctaaga	ttcaatctac	ttatgttaatt	ggcttgcagg	actggatttt	ggctgatggat	1800
106	aagattcata	ctcgctatgt	gcaggatttgc	acccagaccg	ggcgtttgtc	tagtgtggat	1860
108	ccaaacttgc	aaaatattcc	tgccccatttgc	gaacaggggc	gcttgcatttgc	gaaggctttgc	1920
110	gtgccagagt	gggaggatag	tgtgtactc	agctctgact	attcacagat	tgaattgcgc	1980
112	gttttggcgc	atatttctaa	ggatgagcac	ttgattaagg	ccttccaaga	gggggcagat	2040
114	atccataactt	cgacagccat	gccccgttgc	ggcatttgc	gtcctgtatgc	tgtactgca	2100
116	aacgaccgtc	gcaatgc	ggcagttaac	tttggagtgg	tttatggat	ttcagacttgc	2160
118	ggcttgc	ataatttggg	aatttagtgc	aaggaaagcc	aagcctacat	tgatacctac	2220
120	tttgaacgtt	ttccaggtat	taaaaactac	atggatgaa	tggtgcggg	ggcgcgtat	2280
122	aagggcgtat	tagagaccct	ctttaagcgt	cgccgtgat	tgccagat	caattcgcgc	2340
124	aacttcaata	ttcgtgg	tgccggagcga	actgtatca	actcacat	ccagggttc	2400
126	gcagcagata	ttctcaagat	tgccatgatt	cagctggata	aagccttgg	tgcaggtgg	2460
128	tatcagacta	agatgcgtt	acaagtgcac	gatgaaatcg	tccttgaagt	gcctaaatct	2520
130	gaatttggtag	agatgaaaaa	atttggtagaa	caaaccatgg	aagaagccat	tcaactcagt	2580
132	gttccttta	tcgcagatgc	aatgaaagg	gcaaccttgc	acgaggctaa	a	2631
135	<210>	SEQ ID NO:	3				
136	<211>	LENGTH:	633				
137	<212>	TYPE:	DNA				
138	<213>	ORGANISM:	Streptococcus pneumoniae				
140	<400>	SEQUENCE:	3				
141	atggggatgg	cagctttttaa	aaatccta	aatcaataca	aagctattac	aattgctcaa	60
143	actctagg	tgatgc	ttcagaggaa	ttggctgtt	gatatgg	tgctgttc	120
145	tgtacagaag	tgactgc	aaaccttca	acagttaaaa	ctaaagctac	ggtgttagaa	180
147	aaaccactga	aagattttag	agcgtctac	tctgtatcgt	ctgggttgg	ggaatctaat	240
149	ggtaatgg	atttctatga	gtctgg	gtgaagacag	gttgggtgaa	aacagatgg	300
151	aaatggact	atttgaatga	cttaggtgc	atgcagact	gatttgg	attttctgg	360
153	agctgg	tatttgc	ttcaggtgc	atgtttac	gctgggg	agatgg	420
155	agatgg	tcttgcac	ctcaggag	atgaagac	gctgg	tacaa	480
157	acttgg	tatttgcac	agcagg	atgaagac	gttgg	ttaa	540
159	cactgg	tacttgcac	ttcaggag	ttggctgt	gcacaaca	accagatgg	600
161	taccgtgt	aaatggatgg	tgaatgg	aac			633
164	<210>	SEQ ID NO:	4				
165	<211>	LENGTH:	5568				
166	<212>	TYPE:	DNA				
167	<213>	ORGANISM:	Streptococcus pneumoniae				
169	<400>	SEQUENCE:	4				
170	atgagccgaa	aaagcattgg	tgagaaacgc	catagttct	cqatgagaaa	gttgcgt	60

RAW SEQUENCE LISTING
PATENT APPLICATION: US/10/552,156

DATE: 10/24/2005
TIME: 10:46:43

Input Set : A:\Sequence Listing for WO.2004.092209.TXT
Output Set: N:\CRF4\10242005\J552156.raw

172	ggattggat cagttactgt atctagttc ttttgatga gtcaaggat tcaatcggt	120
174	tcggccgata atatggaaag tccaattcat tataagtata tgaccgaggg taaaattgaca	180
176	gacgaggaaa aatccttgct ggttagaggcc cttccacaac tggctgaaga atcagatgat	240
178	acttattact tggttatag atctcaacag ttttaccga atacaggtt taacccaact	300
180	gttggtaact tccttttac tgcaggattt agctgttag ttttatttgt ttctaaaagg	360
182	gaaaatggaa agaaacgact tggtcattt ctgctgtga ctgcataa tagtcagtt	420
184	ttgcccggcca gtgctttgg gttgaccagc cagattttat ctgcctataa tagtcagtt	480
186	tctatcgag tcgggaaaca ttaccagag cctctgaaaa tcgaaggta tcaatatatt	540
188	ggttatatca aaactaagaa acaggataat acagagctt caaggacagt tgatggaaa	600
190	tactctgctc aaagagatag tcaaccaaac tctacaaaaa catcagatgt agtctattca	660
192	gctgatttag aatggAACCA aggacagggg aaggttagtt tacaaggta agcatcagg	720
194	gatgatggac ttccagaaaa atcttctata gcagcagaca atctatcttca taatgattca	780
196	ttcgcaagtc aagttgagca gaatccggat cacaaaggag aatctgttagt tcgaccaaca	840
198	gtgccagaac aaggaaatcc tgtgtctgct acaacgggtc agagtgcgg aagggaaagta	900
200	ttggcgcacga caaatgatcg accagagtat aaacttccat tggaaaccaa aggcacgcaa	960
202	gaacccgggtc atgagggtga agccgcagtc cgtgaagact taccagtcta cactaagcca	1020
204	ctagaaacca aaggtacaca aggacccggta catgaagggt aagctgcagt tcgcgaggaa	1080
206	gaaccagctt acacagaacc gttagcaacg. aaaggcacgc aagagccagg tcatgaggc	1140
208	aaagctacag tccgcgaaga gactctagag tacacggac cggtagcgc aaaaaggcaca	1200
210	caagaacccg aacatgaggg cgaagcggca gtagaagaag aacttccggc ttagaggtc	1260
212	actacacgaa atagaacgga aatccagaat attcctata caacagaaga aattcaggat	1320
214	ccaacacttc tgaaaaatcg tcgtaaaggatt gaacgacaag ggcaagcagg gacacgtaca	1380
216	attcaatatg aagactacat cgtaaatggt aatgtcgtag aaactaaaga agtgcacg	1440
218	actgaagtag ctccggtaa cgaagtcgtt aaagtaggaa cacttgcgtt agttaaacct	1500
220	acagtagaaa ttacaaaactt aacaaaagtt gagaacaaaa aatctataac tgtaagttat	1560
222	aacttaatag acactacctc agcatatgtt tctgcacaaaaa cgcaagttt ccatggagac	1620
224	aagctagtt aagaggtgga tatagaaaaat cctgcacaaag agcaagtaat atcaggtta	1680
226	gattactaca caccgtatac agttaaaaca cacctaactt ataatttggg tgaaaataat	1740
228	gaggaaaata ctgaaacatc aactcaagat ttccaaattag agtataagaa aatagagatt	1800
230	aaagatattt attcaatcgaa attatacggt aaagaaaatg atcggtatcg tagatattta	1860
232	agtctaaatg aagcgccgac tgatacggct aaatactttg taaaagtgaa atcagatcg	1920
234	ttcaaagaaa tgtactacc tgtaaaatct attacagaaa atacggatgg aacgtataaaa	1980
236	gtgacggtag ccgttgcata acttgcgaa gaaggtacag acggttacaa agatgattac	2040
238	acatttactg tagctaaatc taaagcagag caaccaggag ttacacatc cttaaacag	2100
240	ctggtaacag ccatgcaaaag caatctgtct ggtgtctata cattggcttc agatatgacc	2160
242	gcagatgagg tgagcttagg cgataagcag acaagttatc tcacaggtagc attacagg	2220
244	agcttgcgtt gttctgtatgg aacaaaatcg tatccattt atgatggaa gaaaccatta	2280
246	tttgatacat taaatgggtc tacagttaa gattggata taaaactgt ttctgtatg	2340
248	agtaaaagaaa atgtcgacgc gctggcgaag gcagcgaata ggcgaatat taataatgtt	2400
250	gcagtagaaag gaaaatctc aggtgcgaaa tctgtgcgg gatttagtagc gagcgaaca	2460
252	aatacagtga tagaaaacag ctcgtttaca gggaaactta tcgcaatca ccaggacagt	2520
254	aataaaaatg atactggagg aatagtaggt aatataacag gaaatgttc gagagttaat	2580
256	aaagtttaggg tagatgcctt aatctctact aatgcacgc aataataacca aacagctgg	2640
258	gggatagtag gtagattaga aatggtgca ttgatatactt attcggtagc tactggagaa	2700
260	atacgaaatg gtcaaggata ttctagatgc ggagaaatag taggatctac gtggcaaaac	2760
262	ggtcgagtaa ataatgtgt gagaacgtt gatgtggag atggttatgt tatcaccgg	2820
264	gatcaatacg cagcagcaga tgtggaaaat gcaagtacat cagttgataa tagaaaagca	2880
266	gacagattcg ctacaaaattt atcaaaaagac caaatagacg cgaaagtgc tgattatgga	2940
268	atcacagtaa ctcttgatga tactggcaaa gattaaaac gtaatctaag agaagttat	3000

RAW SEQUENCE LISTING DATE: 10/24/2005
 PATENT APPLICATION: US/10/552,156 TIME: 10:46:43

Input Set : A:\Sequence Listing for WO.2004.092209.TXT
 Output Set: N:\CRF4\10242005\J552156.raw

270	tatacaaagac taaataaagc agaagctgaa agaaaagttag cttatagcaa catagaaaaa	3060
272	ctgtatgccat tctacaataa agacctagta gttcaactatg gtaacaaagt agcgacaaca	3120
274	gataaaacttt acactacaga attgttagat gtttgccga tgaaagatga tgaagtagta	3180
276	acggatattt ataataagaa aaattcaata aataaaagtta tggatcattt caaagataat	3240
278	acagtagaat accttagatgt aacattcaaa gaaaacttca taaacagtca agtaatcgaa	3300
280	tacaatgtta caggaaaaga atatatattc acaccagaag catttgttc agactataca	3360
282	gcgataaacga ataacgtact aagcgactg caaaatgtaa cacttaactc agaagctact	3420
284	aaaaaaagtac taggagcagc gaatgatgca gccttagata acctatactt agatagacaa	3480
286	tttgaagaag tttaagctaa tatagcagaa cacctaagaa aagtattagc gatggataaa	3540
288	tcaatcaata ctacaggaga cggtagttt gaatacgtaa gtgagaaaaat caaaaataac	3600
290	aaagaagcat ttatgttagg tcttacttat atgaaccgtt ggtacgatat taattatgg	3660
292	aaaatgaata caaaagattt atctacgtac aagtttgact ttaacggaaa taatgagact	3720
294	tcaacgttgg atactattgt cgcatttaga aatagtggac tagataacct gagagcttca	3780
296	aataactgttag gtttatatgc gaataaaactt gcacccgtaa aaggagaaga ttcaactt	3840
298	gacttcgttag aagcgtatag aaaactgttc ttaccaaaca aaacaataa cgagtggttt	3900
300	aaagaaaata caaaggcata tatagtcgaa atgaagtctg atattgcaga agtacgagaa	3960
302	aaacaagaat caccaacagc cgatagaaaa tattcattag gagttacga tagaatatca	4020
304	gcaccaagtt ggggcataa gaggatgtt ttaccactac taactttacc tgaagaatct	4080
306	gtgtatattt catcaaatat gtctacactt gcattcggtt cgtatgaaag atatcgtat	4140
308	agtggttatg gagttattct ttcaggagat gcttacgaa cttatgtaaag aaatagagtt	4200
310	gatatagcag cgaaaaggca tagagaccat tatgatattt ggtacaatct tcttgacagt	4260
312	gcttcaaaaag aaaaactttt ccgttctgtt atagttatg atggattcaa tgaaaaagat	4320
314	gagacaggaa gaacttattt ggcaagggtt acggataaaa acatcggttc tattaaagaa	4380
316	ttcttcggac ctgttggaa atggatgatgataatagta gtgcaggagc gtatgcgaat	4440
318	ggaagtttaa cgcactttgt gtttagataga ttattagatg cttatggAAC gtcggttat	4500
320	actcatgaaa tggttcataa ttctgattt gcaatctact ttgaaggaaa tggtagacgt	4560
322	gaaggattgg gagcggagtt atacgcactt ggttactgc aatctgtaga tagtgtaaat	4620
324	tctcatattt tagcttaaa tacgttatataa aagcagaaaa aagatgattt gaatagattt	4680
326	catacatata atccgttggA acgtttcgat tcggatgagg cgcttcaaag ttatatgc	4740
328	ggatcatatg atgtatgtt tacacttgcat gcatggaaag caaaagcgat attagctaa	4800
330	aataatgtat ttaagaaaaa atggtttaga aaaatagaaa attattacgt tcgtataact	4860
332	agacataata aagatacaca tgcaggaaat aaagtccgtc cattaacaga tgaagaagta	4920
334	gctaacttaa catcgtaaaa ctcattaatc gacaacgaca tcataaaatag acgtacgtat	4980
336	gatgatagta gagaatataa acgaaatggc tactatacta taagtatgtt ctctcgtt	5040
338	tacgcagcgc taagcaattt gaaagggtct cctggagata ttatgttttag aaaaatagct	5100
340	tatgaattac ttgcggaaaa aggttatcac aaaggattcc taccttatgt ttctaatc	5160
342	taaggagcag aagcatttgc cagcggaaagc aaaacattct catcatgcA tggaaagagat	5220
344	gttgcttag tgacagatga tttagtattt aagaaaagtat tcaatggta gtactcatca	5280
346	tggctgttattttt tcaaaaaagc aatgtttaaa caacgtatag ataaacaaga taatctgaaa	5340
348	ccaataacaa ttcaatcga attaggtatc cctaatacgta caaaagaagt aactataaca	5400
350	acggctgcac aaatgcaaca attaattat gaaacggctg cgaaagatata tactaatata	5460
352	gatcgtgcaa cgagtcatc cccagcaagt tgggtgcatt tattaaacaa aaaaatctat	5520
354	aatgcataatc ttgcactac agatgactt agaaattcta tatataaa	5568
357	<210> SEQ ID NO: 5	
358	<211> LENGTH: 2571	
359	<212> TYPE: DNA	
360	<213> ORGANISM: Streptococcus pneumoniae	
362	<400> SEQUENCE: 5	
363	atgaaattca atccaaatca aagatatact cgttggctt ttcggccgtc cagtgtcggt	60

RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/552,156

DATE: 10/24/2005

TIME: 10:46:43

Input Set : A:\Sequence Listing for WO.2004.092209.TXT
 Output Set: N:\CRF4\10242005\J552156.raw

365	gttgcctca	ttgttgtggc	tagtgcc	tttgcc	ttggtcagcc	aagg	tctgt	120
367	cgtgccatg	ggctcaatcc	aacccc	caagtcttac	ctgaagagac	atcg	ggaa	180
369	aaagagggtg	acttatcaga	aaaacc	gacaccgtt	tcactca	gaa	acctgag	240
371	ggcgta	tactg	gaaatac	gaa	ttcacttcc	acac	ctacag	300
373	gaaacaagcc	cttct	tagtct	gata	actt	ttt	aaaaag	360
375	ccagagctaa	cagatgt	catt	aaa	agaa	act	gtat	420
377	gaaagtcc	ca	gaga	actac	tcct	gaac	aa	480
379	gacagcatcg	atgtt	cctgc	tgctt	atc	ttt	actcg	540
381	gcccgtgtaa	acc	aa	gtaat	tcctt	atg	ttat	600
383	ctattactaa	aag	ctc	gga	taat	gtct	gaca	660
385	gttta	cac	tc	ctt	gaa	agg	tg	720
387	ggcaata	act	tg	gtt	aa	aca	act	780
389	caaactata	aag	ctact	gt	aa	gtaa	ac	840
391	aatctat	ttg	ctact	aaa	aa	act	atgt	900
393	gttca	aaa	ag	ccgtt	ca	acgtt	aa	960
395	aaaaa	gcca	agg	gtt	gg	ccat	ttt	1020
397	ctt	tc	gt	at	ttt	tc	ca	1080
399	ttgtc	agata	ac	ggc	ac	cc	aa	1140
401	accaaa	agg	gtc	aa	ttt	cc	ac	1200
403	caag	cgct	ta	ttg	acc	at	tc	1260
405	gtct	at	gtt	aa	acc	at	tc	1320
407	actat	taa	acg	ttt	aa	ttt	ttt	1380
409	gtt	aa	ag	at	ttt	ttt	ttt	1440
411	ttc	ac	ac	gat	ttt	ttt	ttt	1500
413	act	cg	tct	tc	ttt	ttt	ttt	1560
415	aac	cc	ag	cc	ttt	ttt	ttt	1620
417	tt	ag	cc	ttt	ttt	ttt	ttt	1680
419	gca	aa	cc	gtt	ttt	ttt	ttt	1740
421	cc	ag	act	ttt	ttt	ttt	ttt	1800
423	tct	aa	aa	aa	aa	aa	aa	1860
425	gc	ag	cct	ttt	ttt	ttt	ttt	1920
427	at	tc	cata	tc	ttt	ttt	ttt	1980
429	gaca	agg	cc	at	ttt	ttt	ttt	2040
431	gaaa	ac	gt	ttt	ttt	ttt	ttt	2100
433	gg	caa	aa	aa	aa	aa	aa	2160
435	gtc	ac	at	gtt	ttt	ttt	ttt	2220
437	act	aaaa	aa	aa	aa	aa	aa	2280
439	ttat	cac	ttt	ttt	ttt	ttt	ttt	2340
441	act	ac	ag	at	ttt	ttt	ttt	2400
443	aac	at	gg	ct	ttt	ttt	ttt	2460
445	ct	ac	cc	aa	ttt	ttt	ttt	2520
447	ctt	g	cg	ttt	ttt	ttt	ttt	2571
450	<210>	SEQ ID NO:	6					
451	<211>	LENGTH:	585					
452	<212>	TYPE:	DNA					
453	<213>	ORGANISM:	Streptococcus pneumoniae					
455	<400>	SEQUENCE:	6					
456	at	gaa	at	aa	ttt	ttt	ttt	60
458	gtat	ttt	ttt	ttt	ttt	ttt	ttt	120

RAW SEQUENCE LISTING ERROR SUMMARY DATE: 10/24/2005
 PATENT APPLICATION: US/10/552,156 TIME: 10:46:44

Input Set : A:\Sequence Listing for WO.2004.092209.TXT
 Output Set: N:\CRF4\10242005\J552156.raw

Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:297; N Pos. 491,492,493,494,495,496,497,498,499,500,501,502,503,504
 Seq#:297; N Pos. 505,506,507,508,509,510,511,512,513,514,515,516,517,518
 Seq#:297; N Pos. 519,520,521,522,523,524,525,526,527,528,529,530
 Seq#:298; N Pos. 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22
 Seq#:298; N Pos. 23,24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40
 Seq#:299; N Pos. 757,758,759,760,761,762,763,764,765,766,767,768,769,770
 Seq#:299; N Pos. 771,772,773,774,775,776,777,778,779,780,781,782,783,784
 Seq#:299; N Pos. 785,786,787,788,789,790,791,792,793,794,795,796
 Seq#:300; N Pos. 682,683,684,685,686,687,688,689,690,691,692,693,694,695
 Seq#:300; N Pos. 696,697,698,699,700,701,702,703,704,705,706,707,708,709
 Seq#:300; N Pos. 710,711,712,713,714,715,716,717,718,719,720,721
 Seq#:301; N Pos. 722,723,724,725,726,727,728,729,730,731,732,733,734,735
 Seq#:301; N Pos. 736,737,738,739,740,741,742,743,744,745,746,747,748,749
 Seq#:301; N Pos. 750,751,752,753,754,755,756,757,758,759,760,761
 Seq#:302; N Pos. 742,743,744,745,746,747,748,749,750,751,752,753,754,755
 Seq#:302; N Pos. 756,757,758,759,760,761,762,763,764,765,766,767,768,769
 Seq#:302; N Pos. 770,771,772,773,774,775,776,777,778,779,780,781
 Seq#:303; N Pos. 669,670,671,672,673,674,675,676,677,678,679,680,681,682
 Seq#:303; N Pos. 683,684,685,686,687,688,689,690,691,692,693,694,695,696
 Seq#:303; N Pos. 697,698,699,700,701,702,703,704,705,706,707,708
 Seq#:312; Xaa Pos. 164,165,166,167,168,169,170,171,172,173,174,175,176,177
 Seq#:312; Xaa Pos. 178,179,180,181,182,183,184,185,186,187,188,189,190,191
 Seq#:312; Xaa Pos. 192,193,194,195,196,197,198,199,200,201,202,203,204,205
 Seq#:312; Xaa Pos. 206,207,208,209,210,211,212,213
 Seq#:313; Xaa Pos. 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22
 Seq#:313; Xaa Pos. 23,24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41
 Seq#:313; Xaa Pos. 42,43,44,45,46,47,48,49,50,51
 Seq#:314; Xaa Pos. 253,254,255,256,257,258,259,260,261,262,263,264,265,266
 Seq#:314; Xaa Pos. 267,268,269,270,271,272,273,274,275,276,277,278,279,280
 Seq#:314; Xaa Pos. 281,282,283,284,285,286,287,288,289,290,291,292,293,294
 Seq#:314; Xaa Pos. 295,296,297,298,299,300,301,302
 Seq#:315; Xaa Pos. 228,229,230,231,232,233,234,235,236,237,238,239,240,241
 Seq#:315; Xaa Pos. 242,243,244,245,246,247,248,249,250,251,252,253,254,255
 Seq#:315; Xaa Pos. 256,257,258,259,260,261,262,263,264,265,266,267,268,269
 Seq#:315; Xaa Pos. 270,271,272,273,274,275,276,277
 Seq#:316; Xaa Pos. 241,242,243,244,245,246,247,248,249,250,251,252,253,254
 Seq#:316; Xaa Pos. 255,256,257,258,259,260,261,262,263,264,265,266,267,268
 Seq#:316; Xaa Pos. 269,270,271,272,273,274,275,276,277,278,279,280,281,282
 Seq#:316; Xaa Pos. 283,284,285,286,287,288,289,290
 Seq#:317; Xaa Pos. 248,249,250,251,252,253,254,255,256,257,258,259,260,261
 Seq#:317; Xaa Pos. 262,263,264,265,266,267,268,269,270,271,272,273,274,275
 Seq#:317; Xaa Pos. 276,277,278,279,280,281,282,283,284,285,286,287,288,289
 Seq#:317; Xaa Pos. 290,291,292,293,294,295,296,297
 Seq#:318; Xaa Pos. 223,224,225,226,227,228,229,230,231,232,233,234,235,236

RAW SEQUENCE LISTING ERROR SUMMARY DATE: 10/24/2005
PATENT APPLICATION: US/10/552,156 TIME: 10:46:44

Input Set : A:\Sequence Listing for WO.2004.092209.TXT
Output Set: N:\CRF4\10242005\J552156.raw

Seq#:318; Xaa Pos. 237,238,239,240,241,242,243,244,245,246,247,248,249,250
Seq#:318; Xaa Pos. 251,252,253,254,255,256,257,258,259,260,261,262,263,264
Seq#:318; Xaa Pos. 265,266,267,268,269,270,271,272

VERIFICATION SUMMARY

PATENT APPLICATION: US/10/552,156

DATE: 10/24/2005

TIME: 10:46:44

Input Set : A:\Sequence Listing for WO.2004.092209.TXT
Output Set: N:\CRF4\10242005\J552156.raw

L:9 M:270 C: Current Application Number differs, Replaced Current Application Number
L:10 M:271 C: Current Filing Date differs, Replaced Current Filing Date
L:24828 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:297 after pos.:480
L:24878 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:298 after pos.:0
L:24946 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:299 after pos.:720
M:341 Repeated in SeqNo=299
L:25020 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:300 after pos.:660
M:341 Repeated in SeqNo=300
L:25092 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:301 after pos.:720
L:25166 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:302 after pos.:720
M:341 Repeated in SeqNo=302
L:25236 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:303 after pos.:660
L:26569 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:312 after pos.:160
M:341 Repeated in SeqNo=312
L:26679 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:313 after pos.:0
M:341 Repeated in SeqNo=313
L:26833 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:314 after pos.:240
M:341 Repeated in SeqNo=314
L:27003 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:315 after pos.:224
M:341 Repeated in SeqNo=315
L:27169 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:316 after pos.:240
M:341 Repeated in SeqNo=316
L:27339 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:317 after pos.:240
M:341 Repeated in SeqNo=317
L:27497 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:318 after pos.:208
M:341 Repeated in SeqNo=318